

Appl. No.: 10/563,233

Amdt. Dated July 12, 2011

Response to Office Action Mailed March 15, 2011

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification by replacing the paragraph beginning at page 26, line 15 of the original specification, namely Paragraph [0110] as numbered in the published version of this application, U.S. Pat. App. Pub. No. 2007-0184396 A1, with the following replacement paragraph, which is marked to show all changes relative to the original version.

[0110] In a preferred embodiment, the injectors 84 and 86 may also be configured to induce swirl (130) or turbulence in the injected gases and thereby enhance entrainment of the process gas flow. FIGS. 4 and 5 show alternative arrangements of the peripheral SAS 94, in which swirl vanes 100 are included within the injectors 84 and 86. The injectors 84 and 86 may also be provided with a bluff body (not shown) or flare diffuser (not shown). A bluff body is a centrally located solid disc or cone near the exit of the injector 84 or 86 of slightly smaller maximum diameter than the injector 84 or 86. The bluff body or flare diffuser additionally enhances jet entrainment.

Please amend the specification by replacing the paragraph beginning at page 30, line 1 of the original specification, namely Paragraph [0119] as numbered in the published version of this application, U.S. Pat. App. Pub. No. 2007-0184396 A1, with the following replacement paragraph, which is marked to show all changes relative to the original version.

[0119] Preferably, directing the injected gases from several points towards the circumference of a virtual circle occupying approximately 10% of the central gas flow area will generally create a central mixing vortex. Adding a weak axial swirl (130) to the injected gases will further enhance mixing, while avoiding the creation of an internal recirculation zone. For the most advantageous effect, the gases should be injected at openings flush with the walls of the kiln system so that they may traverse the maximum possible path length within the process gas stream. Some protrusion of the injectors may, however, be desirable to avoid blockages in situations where solid particles could enter the injectors if they are not kept out by the aerodynamics of the incoming gases or where there are external obstacles that make it impractical to have long straight lengths of injector outside the region of the kiln system concerned.